

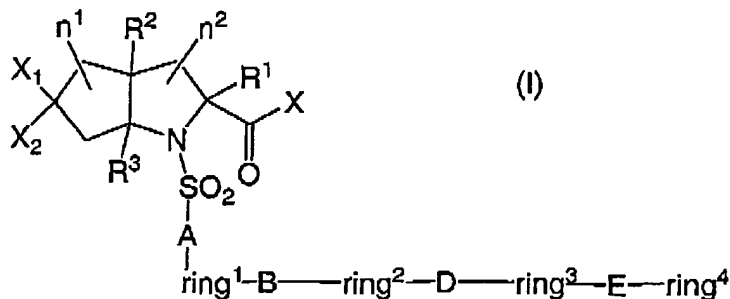
DEAV2003/0001 US NP
Application No. 10/751,600

PATENT

This listing of claims will replace all prior versions and listings of claims in the application.

Listing of Claims

1. (Currently amended) A compound of formula I



wherein

A is

-(C₀-C₄)-alkylene,

B, D and E are identical or different and are, independently of each other,

-(C₀-C₄)-alkylene,

-(C₂-C₄)-alkenylene,

-S(O)₀-,

-NH-,

-NH-C(O)-,

-C(O)-NH-,

-NH-SO₂-,

-NH-C(O)-NH-,

-NH-C(S)-,

-NH-C(O)-O-,

-O-,

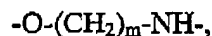
-O-C(O)-NH-,

-C(O)-,

-O-(CH₂)_n-O-, or

DEAV2003/0001 US NP
Application No. 10/751,600

PATENT



o is

zero, 1 or 2,

n is

2 or 3,

m is

2 or 3,

ring¹, ring² or ring³ are identical or different and are, independently of each other,
covalent bond,

-(C₆-C₁₄)-aryl that is unsubstituted or substituted, independently of each other, once,
twice or three times, by G, or

5- or 6-membered aromatic heteroaryl ring that is unsubstituted or substituted,
independently of each other, once, twice or three times, by G,

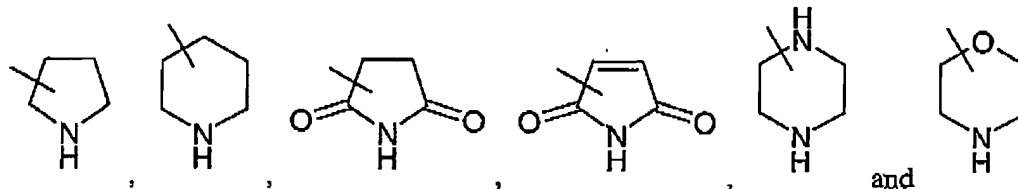
ring⁴ is

-(C₆-C₁₄)-aryl that is unsubstituted or substituted, independently of each other, once,
twice or three times, by G,

5- or 6-membered aromatic heteroaryl ring that is unsubstituted or substituted,
independently of each other, once, twice or three times, by G,

heteroaryl that is unsubstituted or substituted, independently of each other, once, twice or
three times, by G, or

azaheterocyclyl selected from the group consisting of



DEAV2003/0001 US NP
Application No. 10/751,600

PATENT

that are unsubstituted or substituted, independently of each other, once, twice or three times, by G,

G is

hydrogen,

halogen,

R^4 ,

$-O-R^4$,

$-C(O)-R^5$,

$-S(O)_p-R^4$,

$-NO_2$,

$-CN$ or

$-NR^3R^4$,

p is

zero, 1 or 2,

X is

$-OH$ or $-NH-OH$,

X_1 and X_2 are identical or different and are, independently of each other,

hydrogen or $-(C_1-C_6)$ -alkyl, or

taken together form the radical $=O$,

n^1 is

$-(CH_2)_r-$,

n^2 is

$-(CH_2)_q-$,

DEAV2003/0001 US NP
Application No. 10/751,600

PATENT

r is

zero, 1, 2 or 3,

q is

zero, 1, 2 or 3,

R¹ is

hydrogen, or

-(C₁-C₆)-alkyl that is unsubstituted or substituted, once or twice, by -(C₃-C₆)-cycloalkyl, -(C₆-C₁₄)-aryl or heteroaryl,

R² and R³ are identical or different and are, independently of each other,

hydrogen or -(C₁-C₆)-alkyl,

R⁴ is

hydrogen,

-(C₁-C₆)-alkyl that is unsubstituted or substituted, once, twice or three times, by halogen,

-(C₃-C₆)-cycloalkyl, -(C₆-C₁₄)-aryl or heteroaryl,

-(C₆-C₁₄)-aryl,

heteroaryl,

-C(O)-O-R⁵,

-C(S)-O-R⁵,

-C(O)-NH-R⁶, or

-C(S)-NH-R⁶,

R⁵ is

-(C₁-C₆)-alkyl that is unsubstituted or substituted, once or twice, by -(C₃-C₆)-cycloalkyl, -(C₆-C₁₄)-aryl, or heteroaryl, and

R⁶ is

DEAV2003/0001 US NP
Application No. 10/751,600

PATENT

-(C₁-C₆)-alkyl that is unsubstituted or substituted, once or twice, by -(C₃-C₆)-cycloalkyl, -(C₆-C₁₄)-aryl or heteroaryl, or

a stereoisomer thereof, a mixture of stereoisomers thereof in any ratio, or a physiologically tolerable salt thereof,

wherein N-[(3,5-dichlorobenzene)sulfonyl]-(3a(S), 7a(S))-octahydro-indole-2(S)-carboxylic acid and its stereoisomers and N-tosylperhydrocyclopenta[b]pyrrole-2-carboxylic acid and its stereoisomers are disclaimed.

2. (Previously presented) The compound of claim 1, wherein

ring¹, ring² or ring³ are

-(C₆-C₁₄)-aryl that is phenyl, naphthyl, 1-naphthyl, 2-naphthyl, biphenyl, 2-biphenyl, 3-biphenyl, 4-biphenyl, anthryl or fluorenyl and is unsubstituted or substituted, independently of each other, once, twice or three times, by G, or
5- or 6-membered aromatic heteroaryl ring that is dihydrofuranyl, dioxolyl, dioxanyl, furanyl, imidazolidinyl, imidazolyl, imidazolyl, isoxazolyl, isoxazolidinyl, 2-isoxazolyl, isothiazolyl, isothiazolidinyl, 2-isothiazolyl, morpholinyl, oxazolyl, oxothiolanyl, piperazinyl, piperidinyl, pyran, pyrazinyl, pyrazolyl, pyrazolidinyl, pyrazolyl, pyridazinyl, pyridinyl, pyrimidinyl, pyrrolyl, pyrrolidinyl, tetrahydrofuranyl, tetrahydropyridinyl, thiazolyl, thiomorpholinyl, thiophenyl or thiopyran and is unsubstituted or substituted, independently of each other, once, twice or three times, by G,

ring⁴ is

-(C₆-C₁₄)-aryl that is phenyl, naphthyl, 1-naphthyl, 2-naphthyl, biphenyl, 2-biphenyl, 3-biphenyl, 4-biphenyl, anthryl or fluorenyl and is unsubstituted or substituted, independently of each other, once, twice or three times, by G,
5- or 6-membered aromatic heteroaryl ring that is dihydrofuranyl, dioxolyl, dioxanyl, furanyl, imidazolidinyl, imidazolyl, imidazolyl, isoxazolyl, isoxazolidinyl, 2-isoxazolyl, isothiazolyl, isothiazolidinyl, 2-isothiazolyl, morpholinyl, oxazolyl, oxothiolanyl, piperazinyl, piperidinyl, pyran, pyrazinyl, pyrazolyl, pyrazolidinyl,

DEAV2003/0001 US NP
Application No. 10/751,600

PATENT

pyrazolinyl, pyridazinyl, pyridinyl, pyrimidinyl, pyrrolyl, pyrrolidinyl, tetrahydrofuranyl, tetrahydropyridinyl, thiazolyl, thiomorpholinyl, thiophenyl or thiopyranyl and is unsubstituted or substituted, independently of each other, once, twice or three times, by G, or heteroaryl that is acridinyl, azetidiny, benzimidazolyl, benzofuranyl, benzothiofuranyl, benzothiophenyl, benzoxazolyl, benzothiazolyl, benzotriazolyl, benzotetrazolyl, benzisoxazolyl, benzisothiazolyl, benzimidazalinyl, carbazolyl, 4aH-carbazolyl, carbolinyl, chromanyl, chromenyl, cinnolinyl, deca-hydroquinolinyl, 2H,6H-1,5,2-dithiazinyl, dihydrofuran[2,3-b]tetrahydrofuran, furanyl, furazanyl, imidazolidinyl, imidazolyl, imidazolyl, 1H-indazolyl, indolinyl, indoliziny, indolyl, 3H-indolyl, isobenzofuranyl, isochromanyl, isoindazolyl, isoindolyl, isoindolyl, isoquinolinyl (benzimidazolyl), isothiazolyl, isoxazolyl, morpholinyl, naphthyridinyl, octahydroisoquinolinyl, oxadiazolyl, 1,2,3-oxadiazolyl, 1,2,4-oxadiazolyl, 1,2,5-oxadiazolyl, 1,3,4-oxadiazolyl, oxazolidinyl, oxazolyl, oxazolidinyl, pyrimidinyl, phenanthridinyl, phenanthrolinyl, phenazinyl, phenothiazinyl, phenoxathiinyl, phenoxazinyl, phthalazinyl, piperazinyl, piperidinyl, pteridinyl, purinyl, pyranyl, pyrazinyl, pyroazolidinyl, pyrazolinyl, pyrazolyl, pyridazinyl, pyridooxazolyl, pyridoimidazolyl, pyridothiazolyl, pyridothiophenyl, pyridinyl, pyridyl, pyrimidinyl, pyrrolidinyl, pyrrolinyl, 2H-pyrrolyl, pyrrolyl, quinazolinyl, quinolinyl, 4H-quinoliziny, quinoxalinyl, quinuclidinyl, tetrahydrofuranyl, tetrahydroisoquinolinyl, tetrahydroquinolinyl, 6H-1,2,5-thiadiazinyl, 1,2,3-thiadiazolyl, 1, 2, 4-thiadiazolyl, 1, 2, 5-thiadiazolyl, 1,3,4-thiadiazolyl, thianthrenyl, thiazolyl, thienyl, thienothiazolyl, thienooxazolyl, thienoimidazolyl, thiophenyl, triazinyl, 1,2,3-triazolyl, 1,2,3-triazolyl, 1,2,4-triazolyl, 1,2,5-triazolyl, 1,3,4-triazolyl or xanthenyl, and is unsubstituted or substituted, independently of each other, once, twice or three times, by G,

R⁴ is

-(C₁-C₆)-alkyl that is unsubstituted or substituted, once, twice or three times, by halogen, -(C₃-C₆)-cycloalkyl, phenyl, naphthyl, acridinyl, azetidiny, benzimidazolyl, benzofuranyl, benzothiofuranyl, benzothiophenyl, benzoxazolyl, benzothiazolyl, benzotriazolyl, benzotetrazolyl, benzisoxazolyl, benzisothiazolyl, benzimidazalinyl,

DEAV2003/0001 US NP
Application No. 10/751,600

PATENT

carbazolyl, 4aH-carbazolyl, carbolinyl, chromanyl, chromenyl, cinnolinyl, deca-hydroquinolinyl, 2H,6H-1,5,2-dithiazinyl, dihydrofuran[2,3-b]tetrahydrofuran, furanyl, furazanyl, imidazolidinyl, imidazolynyl, imidazolyl, 1H-indazolyl, indolinyl, indolizynyl, indolyl, 3H-indolyl, isobenzofuranyl, isochromanyl, isoindazolyl, isoindolynyl, isoindolyl, isoquinolinyl (benzimidazolyl), isothiazolyl, isoxazolyl, morpholinyl, naphthyridinyl, octahydroisoquinolinyl, oxadiazolyl, 1,2,3-oxadiazolyl, 1,2,4-oxadiazolyl, 1,2,5-oxadiazolyl, 1,3,4-oxadiazolyl, oxazolidinyl, oxazolyl, oxazolidinyl, pyrimidinyl, phenanthridinyl, phenanthrolinyl, phenazinyl, phenothiazinyl, phenoxathiinyl, phenoxazinyl, phthalazinyl, piperazinyl, piperidinyl, pteridinyl, purinyl, pyranyl, pyrazinyl, pyroazolidinyl, pyrazolinyl, pyrazolyl, pyridazinyl, pyridooxazolyl, pyridoimidazolyl, pyridothiazolyl, pyridothiophenyl, pyridinyl, pyridyl, pyrimidinyl, pyrrolidinyl, pyrrolinyl, 2H-pyrrolyl, pyrrolyl, quinazolinyl, quinolinyl, 4H-quinolizynyl, quinoxalinyl, quinuclidinyl, tetrahydrofuranyl, tetrahydroisoquinolinyl, tetrahydroquinolinyl, 6H-1,2,5-thiadiazinyl, 1,2,3-thiadiazolyl, 1, 2, 4-thiadiazolyl, 1, 2, 5-thiadiazolyl, 1,3,4-thiadiazolyl, thianthrenyl, thiazolyl, thienyl, thienothiazolyl, thienooxazolyl, thienoimidazolyl, thiophenyl, triazinyl, 1,2,3-triazolyl, 1,2,3-triazolyl, 1,2,4-triazolyl, 1,2,5-triazolyl, 1,3,4-triazolyl or xanthenyl, and is unsubstituted or substituted, independently of each other, once, twice or three times, by G, -(C₆-C₁₄)-aryl that is phenyl or naphthyl, or heteroaryl that is acridinyl, azetidynyl, benzimidazolyl, benzofuranyl, benzothiofuranyl, benzothiophenyl, benzoxazolyl, benzothiazolyl, benzotriazolyl, benztetrazolyl, benzisoxazolyl, benzisothiazolyl, benzimidazalinyl, carbazolyl, 4aH-carbazolyl, carbolinyl, chromanyl, chromenyl, cinnolinyl, deca-hydroquinolinyl, 2H,6H-1,5,2-dithiazinyl, dihydrofuran[2,3-b]tetrahydrofuran, furanyl, furazanyl, imidazolidinyl, imidazolynyl, imidazolyl, 1H-indazolyl, indolinyl, indolizynyl, indolyl, 3H-indolyl, isobenzofuranyl, isochromanyl, isoindazolyl, isoindolynyl, isoindolyl, isoquinolinyl (benzimidazolyl), isothiazolyl, isoxazolyl, morpholinyl, naphthyridinyl, octahydroisoquinolinyl, oxadiazolyl, 1,2,3-oxadiazolyl, 1,2,4-oxadiazolyl, 1,2,5-oxadiazolyl, 1,3,4-oxadiazolyl, oxazolidinyl, oxazolyl, oxazolidinyl, pyrimidinyl, phenanthridinyl, phenanthrolinyl, phenazinyl, phenothiazinyl, phenoxathiinyl, phenoxazinyl, phthalazinyl, piperazinyl, piperidinyl, pteridinyl, purinyl, pyranyl,

DEAV2003/0001 US NP
Application No. 10/751,600

PATENT

pyrazinyl, pyroazolidinyl, pyrazolinyl, pyrazolyl, pyridazinyl, pyridooxazolyl, pyridoimidazolyl, pyridothiazolyl, pyridothiophenyl, pyridinyl, pyridyl, pyrimidinyl, pyrrolidinyl, pyrrolinyl, 2H-pyrrolyl, pyrrolyl, quinazolinyl, quinolinyl, 4H-quinoliziny, quinoxaliny, quinuclidinyl, tetrahydrofuranyl, tetrahydroisoquinolinyl, tetrahydroquinolinyl, 6H-1,2,5-thiadazinyl, 1,2,3-thiadiazolyl, 1, 2, 4-thiadiazolyl, 1, 2, 5-thiadiazolyl, 1,3,4-thiadiazolyl, thianthrenyl, thiazolyl, thienyl, thienothiazolyl, thienooxazolyl, thienoimidazolyl, thiophenyl, triazinyl, 1,2,3-triazolyl, 1,2,3-triazolyl, 1,2,4-triazolyl, 1,2,5-triazolyl, 1,3,4-triazolyl or xanthenyl, and is unsubstituted or substituted, independently of each other, once, twice or three times, by G,

R⁵ is

-(C₁-C₆)-alkyl that is unsubstituted or substituted, once, twice or three times, by -(C₃-C₆)-cycloalkyl, phenyl, naphthyl, acridinyl, azetidiny, benzimidazolyl, benzofuranyl, benzothiofuranyl, benzothiophenyl, benzoxazolyl, benzothiazolyl, benzotriazolyl, benzotetrazolyl, benzisoxazolyl, benzisothiazolyl, benzimidazaliny, carbazolyl, 4aH-carbazolyl, carbolinyl, chromanyl, chromenyl, cinolinyl, deca-hydroquinolinyl, 2H,6H-1,5,2-dithiazinyl, dihydrofuran[2,3-b]tetrahydrofuran, furanyl, furazanyl, imidazolidinyl, imidazolinyl, imidazolyl, 1H-indazolyl, indolinyl, indoliziny, indolyl, 3H-indolyl, isobenzofuranyl, isochromanyl, isoindazolyl, isoindolinyl, isoindolyl, isoquinolinyl (benzimidazolyl), isothiazolyl, isoxazolyl, morpholinyl, naphthyridinyl, octahydroisoquinolinyl, oxadiazolyl, 1,2,3-oxadiazolyl, 1,2,4-oxadiazolyl, 1,2,5-oxadiazolyl, 1,3,4-oxadiazolyl, oxazolidinyl, oxazolyl, oxazolidinyl, pyrimidinyl, phenanthridinyl, phenanthrolinyl, phenazinyl, phenothiazinyl, phenoxathiinyl, phenoxazinyl, phthalazinyl, piperazinyl, piperidinyl, pteridinyl, purinyl, pyranyl, pyrazinyl, pyroazolidinyl, pyrazolinyl, pyrazolyl, pyridazinyl, pyridooxazolyl, pyridoimidazolyl, pyridothiazolyl, pyridothiophenyl, pyridinyl, pyridyl, pyrimidinyl, pyrrolidinyl, pyrrolinyl, 2H-pyrrolyl, pyrrolyl, quinazolinyl, quinolinyl, 4H-quinoliziny, quinoxaliny, quinuclidinyl, tetrahydrofuranyl, tetrahydroisoquinolinyl, tetrahydroquinolinyl, 6H-1,2,5-thiadazinyl, 1,2,3-thiadiazolyl, 1, 2, 4-thiadiazolyl, 1, 2, 5-thiadiazolyl, 1,3,4-thiadiazolyl, thianthrenyl, thiazolyl, thienyl, thienothiazolyl, thienooxazolyl, thienoimidazolyl, thiophenyl, triazinyl, 1,2,3-triazolyl, 1,2,3-triazolyl,

DEAV2003/0001 US NP
Application No. 10/751,600

PATENT

1,2,4-triazolyl, 1,2,5-triazolyl, 1,3,4-triazolyl or xanthenyl, and is unsubstituted or substituted, independently of each other, once, twice or three times, by G, -(C₆-C₁₄)-aryl that is phenyl or naphthyl, or heteroaryl that is acridinyl, azetidiny, benzimidazolyl, benzofuranyl, benzothiofuranyl, benzothiophenyl, benzoxazolyl, benzothiazolyl, benzotriazolyl, benzotetrazolyl, benzisoxazolyl, benzisothiazolyl, benzimidazaliny, carbazolyl, 4aH-carbazolyl, carboliny, chromanyl, chromenyl, cinnoliny, deca-hydroquinoliny, 2H,6H-1,5,2-dithiaziny, dihydrofuran[2,3-b]tetrahydrofuran, furanyl, furazanyl, imidazolidiny, imidazoliny, imidazolyl, 1H-indazolyl, indoliny, indoliziny, indolyl, 3H-indolyl, isobenzofuranyl, isochromanyl, isoindazolyl, isoindoliny, isoindolyl, isoquinoliny (benzimidazolyl), isothiazolyl, isoxazolyl, morpholiny, naphthyridiny, octahydroisoquinoliny, oxadiazolyl, 1,2,3-oxadiazolyl, 1,2,4-oxadiazolyl, 1,2,5-oxadiazolyl, 1,3,4-oxadiazolyl, oxazolidiny, oxazolyl, oxazolidiny, pyrimidiny, phenanthridiny, phenanthroliny, phenaziny, phenothiaziny, phenoxathiiny, phenoxaziny, phthalaziny, piperaziny, piperidiny, pteridiny, puriny, pyranly, pyraziny, pyroazolidiny, pyrazoliny, pyrazolyl, pyridaziny, pyridooxazolyl, pyridoimidazolyl, pyridothiazolyl, pyridothiophenyl, pyridiny, pyridyl, pyrimidiny, pyrrolidiny, pyrroliny, 2H-pyrroly, pyrroly, quinazoliny, quinoliny, 4H-quinoliziny, quinoxaliny, quinuclidiny, tetrahydrofuranyl, tetrahydroisoquinoliny, tetrahydroquinoliny, 6H-1,2,5-thiadaziny, 1,2,3-thiadiazolyl, 1, 2, 4-thiadiazolyl, 1, 2, 5-thiadiazolyl, 1,3,4-thiadiazolyl, thianthrenyl, thiazolyl, thienyl, thienothiazolyl, thienooxazolyl, thienoimidazolyl, thiophenyl, triaziny, 1,2,3-triazolyl, 1,2,3-triazolyl, 1,2,4-triazolyl, 1,2,5-triazolyl, 1,3,4-triazolyl or xanthenyl, and is unsubstituted or substituted, independently of each other, once, twice or three times, by G,

R⁶ is

-(C₁-C₆)-alkyl that is unsubstituted or substituted, once, twice or three times, by -(C₃-C₆)-cycloalkyl, phenyl, naphthyl, acridiny, azetidiny, benzimidazolyl, benzofuranyl, benzothiofuranyl, benzothiophenyl, benzoxazolyl, benzothiazolyl, benzotriazolyl, benzotetrazolyl, benzisoxazolyl, benzisothiazolyl, benzimidazaliny, carbazolyl, 4aH-carbazolyl, carboliny, chromanyl, chromenyl, cinnoliny, deca-hydroquinoliny, 2H,6H-

DEAV2003/0001 US NP
Application No. 10/751,600

PATENT

1,5,2-dithiazinyl, dihydrofuran[2,3-b]tetrahydrofuran, furanyl, furazanyl, imidazolidinyl, imidazoliny, imidazolyl, 1H-indazolyl, indoliny, indoliziny, indolyl, 3H-indolyl, isobenzofuranyl, isochromanyl, isoindazolyl, isoindoliny, isoindolyl, isoquinoliny (benzimidazolyl), isothiazolyl, isoxazolyl, morpholiny, naphthyridiny, octahydroisoquinoliny, oxadiazolyl, 1,2,3-oxadiazolyl, 1,2,4-oxadiazolyl, 1,2,5-oxadiazolyl, 1,3,4-oxadiazolyl, oxazolidiny, oxazolyl, oxazolidiny, pyrimidiny, phenanthridiny, phenanthroliny, phenaziny, phenothiaziny, phenoxathiiny, phenoxaziny, phthalaziny, piperaziny, piperidiny, pteridiny, puriny, pyranly, pyraziny, pyroazolidiny, pyrazoliny, pyrazolyl, pyridaziny, pyridooxazolyl, pyridoimidazolyl, pyridothiazolyl, pyridothiopheny, pyridiny, pyridyl, pyrimidiny, pyrrolidiny, pyrroliny, 2H-pyrroly, pyrroly, quinazoliny, quinoliny, 4H-quinoliziny, quinoxaliny, quinuclidiny, tetrahydrofuranyl, tetrahydroisoquinoliny, tetrahydroquinoliny, 6H-1,2,5-thiadaziny, 1,2,3-thiadiazolyl, 1, 2, 4-thiadiazolyl, 1, 2, 5-thiadiazolyl, 1,3,4-thiadiazolyl, thianthreny, thiazolyl, thienyl, thienothiazolyl, thienooxazolyl, thienoimidazolyl, thiopheny, triaziny, 1,2,3-triazolyl, 1,2,3-triazolyl, 1,2,4-triazolyl, 1,2,5-triazolyl, 1,3,4-triazolyl or xantheny, and is unsubstituted or substituted, independently of each other, once, twice or three times, by G,

-(C₆-C₁₄)-aryl that is phenyl or naphthyl, or

heteroaryl that is acridiny, azetidiny, benzimidazolyl, benzofuranyl, benzothiofuranyl, benzothiopheny, benzoxazolyl, benzothiazolyl, benzotriazolyl, benzotetrazolyl, benzisoxazolyl, benzisothiazolyl, benzimidazaliny, carbazolyl, 4aH-carbazolyl, carboliny, chromanyl, chromeny, cinnoliny, deca-hydroquinoliny, 2H,6H-1,5,2-dithiaziny, dihydrofuran[2,3-b]tetrahydrofuran, furanyl, furazanyl, imidazolidiny, imidazoliny, imidazolyl, 1H-indazolyl, indoliny, indoliziny, indolyl, 3H-indolyl, isobenzofuranyl, isochromanyl, isoindazolyl, isoindoliny, isoindolyl, isoquinoliny (benzimidazolyl), isothiazolyl, isoxazolyl, morpholiny, naphthyridiny, octahydroisoquinoliny, oxadiazolyl, 1,2,3-oxadiazolyl, 1,2,4-oxadiazolyl, 1,2,5-oxadiazolyl, 1,3,4-oxadiazolyl, oxazolidiny, oxazolyl, oxazolidiny, pyrimidiny, phenanthridiny, phenanthroliny, phenaziny, phenothiaziny, phenoxathiiny, phenoxaziny, phthalaziny, piperaziny, piperidiny, pteridiny, puriny, pyranly, pyraziny, pyroazolidiny, pyrazoliny, pyrazolyl, pyridaziny, pyridooxazolyl,

DEAV2003/0001 US NP
Application No. 10/751,600

PATENT

pyridoimidazolyl, pyridothiazolyl, pyridothiophenyl, pyridinyl, pyridyl, pyrimidinyl, pyrrolidinyl, pyrrolinyl, 2H-pyrrolyl, pyrrolyl, quinazolinyl, quinolinyl, 4H-quinoliziny, quinoxaliny, quinuclidiny, tetrahydrofurany, tetrahydroisoquinolinyl, tetrahydroquinolinyl, 6H-1,2,5-thiadaziny, 1,2,3-thiadiazolyl, 1, 2, 4-thiadiazolyl, 1, 2, 5-thiadiazolyl, 1,3,4-thiadiazolyl, thianthrenyl, thiazolyl, thienyl, thienothiazolyl, thienooxazolyl, thienoimidazolyl, thiophenyl, triazinyl, 1,2,3-triazolyl, 1,2,3-triazolyl, 1,2,4-triazolyl, 1,2,5-triazolyl, 1,3,4-triazolyl or xanthenyl, and is unsubstituted or substituted, independently of each other, once, twice or three times, by G, and

R¹ is

-(C₁-C₆)-alkyl that is unsubstituted or substituted, once, twice or three times, by -(C₃-C₆)-cycloalkyl, phenyl, naphthyl, acridinyl, azetidiny, benzimidazolyl, benzofurany, benzothiofurany, benzothiophenyl, benzoxazolyl, benzothiazolyl, benzotriazolyl, benztetrazolyl, benzisoxazolyl, benzisothiazolyl, benzimidazaliny, carbazolyl, 4aH-carbazolyl, carboliny, chromany, chromenyl, cinnoliny, deca-hydroquinolinyl, 2H,6H-1,5,2-dithiaziny, dihydrofuran[2,3-b]tetrahydrofuran, furany, furazany, imidazolidiny, imidazoliny, imidazolyl, 1H-indazolyl, indoliny, indoliziny, indolyl, 3H-indolyl, isobenzofurany, isochromany, isoindazolyl, isoindoliny, isoindolyl, isoquinolinyl (benzimidazolyl), isothiazolyl, isoxazolyl, morpholiny, naphthyridiny, octahydroisoquinolinyl, oxadiazolyl, 1,2,3-oxadiazolyl, 1,2,4-oxadiazolyl, 1,2,5-oxadiazolyl, 1,3,4-oxadiazolyl, oxazolidiny, oxazolyl, oxazolidiny, pyrimidinyl, phenanthridiny, phenanthroliny, phenaziny, phenothiaziny, phenoxathiiny, phenoxaziny, phthalaziny, piperaziny, piperidiny, pteridiny, puriny, pyranly, pyraziny, pyroazolidiny, pyrazoliny, pyrazolyl, pyridaziny, pyridoaxazolyl, pyridoimidazolyl, pyridothiazolyl, pyridothiophenyl, pyridiny, pyridyl, pyrimidinyl, pyrrolidinyl, pyrroliny, 2H-pyrrolyl, pyrrolyl, quinazolinyl, quinolinyl, 4H-quinoliziny, quinoxaliny, quinuclidiny, tetrahydrofurany, tetrahydroisoquinolinyl, tetrahydroquinolinyl, 6H-1,2,5-thiadaziny, 1,2,3-thiadiazolyl, 1, 2, 4-thiadiazolyl, 1, 2, 5-thiadiazolyl, 1,3,4-thiadiazolyl, thianthrenyl, thiazolyl, thienyl, thienothiazolyl, thienooxazolyl, thienoimidazolyl, thiophenyl, triazinyl, 1,2,3-triazolyl, 1,2,3-triazolyl,

DEAV2003/0001 US NP
Application No. 10/751,600

PATENT

1,2,4-triazolyl, 1,2,5-triazolyl, 1,3,4-triazolyl or xanthenyl, and is unsubstituted or substituted, independently of each other, once, twice or three times, by G.

3. (Currently amended) The compound of claim 1, wherein
B, D and E are identical or different and are, independently of each other,

-(C₀-C₂)-alkylene,

-C₂-alkenylene,

-S(O)₂-,

-NH-,

-NH-C(O)-,

-C(O)-NH-,

-NH-C(O)-NH-,

-O-, or

-C(O)-,

ring¹, ring² or ring³ are

-(C₆-C₁₄)-aryl that is phenyl or naphthyl and ~~that is~~ unsubstituted or substituted,
independently of each other, once, twice or three times, by G, or

5- or 6-membered aromatic heteroaryl ring that is dihydrofuranyl, furanyl, morpholinyl, piperazinyl, piperidinyl, pyridinyl, pyrimidinyl, pyrrolyl, thiazolyl or thiophenyl, and is unsubstituted or substituted, independently of each other, once, twice or three times, by G,

ring⁴ is

-(C₆-C₁₄)-aryl that is phenyl or naphthyl and is unsubstituted or substituted,
independently of each other, once, twice or three times, by G,

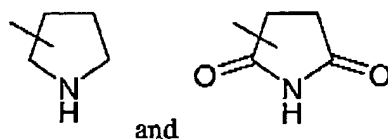
5- or 6-membered aromatic heteroaryl ring that is dihydrofuranyl, furanyl, morpholinyl, piperazinyl, piperidinyl, pyridinyl, pyrimidinyl, pyrrolyl, thiazolyl or thiophenyl, and is unsubstituted or substituted, independently of each other, once, twice or three times, by G,

DEAV2003/0001 US NP
Application No. 10/751,600

PATENT

heteroaryl that is benzofuranyl, benzothiophenyl, dihydrofuranyl, furanyl, morpholinyl, piperazinyl, piperidinyl, pyridinyl, pyridothiophenyl, pyrimidinyl, pyrrolyl, thiazolyl or thiophenyl, and is unsubstituted or substituted, independently of each other, once, twice or three times, by G, or

azaheterocyclyl selected from the group consisting of



that is unsubstituted or substituted, independently of each other, once, twice or three times, by G,

G is

halogen that is Br, Cl, I or F, and

$-S(O)_p-R^4$ that is $-S(O)_2-R^4$,

R^4 is

hydrogen,

$-(C_1-C_4)$ -alkyl that is unsubstituted or substituted, once, twice or three times, by Br, Cl, F,

$-C_3$ -cycloalkyl, phenyl, naphthyl, or heteroaryl that is benzofuranyl, benzothiophenyl,

dihydrofuranyl, furanyl, morpholinyl, piperazinyl, piperidinyl, pyridinyl,

pyridothiophenyl, pyrimidinyl, pyrrolyl, thiazolyl or thiophenyl and is unsubstituted or

substituted, independently of each other, once, twice or three times, by G,

phenyl or naphthyl,

heteroaryl that is benzofuranyl, benzothiophenyl, dihydrofuranyl, furanyl, morpholinyl,

piperazinyl, piperidinyl, pyridinyl, pyridothiophenyl, pyrimidinyl, pyrrolyl, thiazolyl or

thiophenyl and is unsubstituted or substituted, independently of each other, once, twice or

three times, by G,

$-C(O)-O-R^5$, or

$-C(O)-NH-R^6$,

R^5 is

DEAV2003/0001 US NP
Application No. 10/751,600

PATENT

-(C₁-C₄)-alkyl that is unsubstituted or substituted, once or twice, by -C₃-cycloalkyl, phenyl, naphthyl or heteroaryl that is benzofuranyl, benzothiophenyl, dihydrofuranyl, furanyl, morpholinyl, piperazinyl, piperidinyl, pyridinyl, pyridothiophenyl, pyrimidinyl, pyrrolyl, thiazolyl or thiophenyl and is unsubstituted or substituted, independently of each other, once, twice or three times, by G, phenyl or naphthyl, or heteroaryl that is benzofuranyl, benzothiophenyl, dihydrofuranyl, furanyl, morpholinyl, piperazinyl, piperidinyl, pyridinyl, pyridothiophenyl, pyrimidinyl, pyrrolyl, thiazolyl or thiophenyl and ~~that~~ is substituted, independently of each other, once, twice or three times, by G,

R⁶ is

-(C₁-C₄)-alkyl, in which alkyl is unsubstituted or substituted, once or twice, by -C₃-cycloalkyl, phenyl, naphthyl or heteroaryl that is benzofuranyl, benzothiophenyl, dihydrofuranyl, furanyl, morpholinyl, piperazinyl, piperidinyl, pyridinyl, pyridothiophenyl, pyrimidinyl, pyrrolyl, thiazolyl or thiophenyl and is unsubstituted or substituted, independently of each other, once, twice or three times, by G, phenyl or naphthyl, or heteroaryl that is benzofuranyl, benzothiophenyl, dihydrofuranyl, furanyl, morpholinyl, piperazinyl, piperidinyl, pyridinyl, pyridothiophenyl, pyrimidinyl, pyrrolyl, thiazolyl or thiophenyl and is substituted, independently of each other, once, twice or three times, by G,

X₁ and X₂ are

hydrogen,

n¹ and n² are

-(CH₂)-, or n¹ is -(CH₂)₂- and n² is -(CH₂)-,

R¹ is

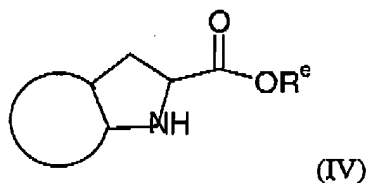
hydrogen, and

DEAV2003/0001 US NP
Application No. 10/751,600

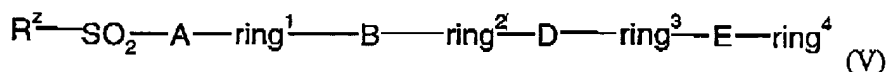
PATENT

R^2 and R^3 are
hydrogen.

4. (Withdrawn) A process for preparing the compound of claim 1, comprising

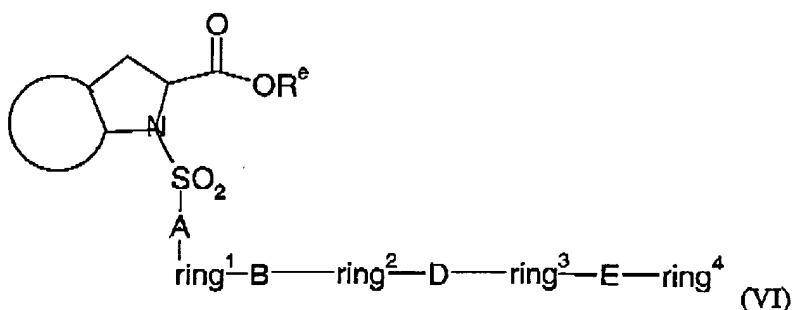


wherein R^e is a hydrogen or an ester protecting group, with a compound of formula V,



in which A, B, D, E and ring^1 , ring^2 , ring^3 and ring^4 are defined as in the compound of formula I, and wherein R^z is chlorine atom, imidazolyl or OH,

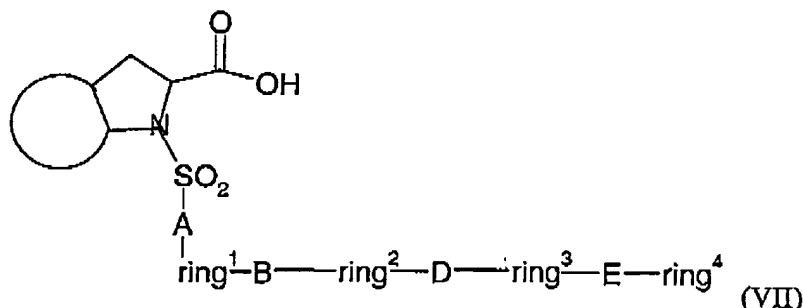
in the presence of a base, or after silylation with a suitable silylating agent, to give a compound of formula VI,



wherein A, B, D, E, R^e and ring^1 , ring^2 , ring^3 and ring^4 are as defined above, and

- b) where R^e is the ester protecting group, reacting a compound of formula VI, which has been prepared in accordance with step a), with a solution of an alkali such as NaOH or LiOH, and then treating with acid, to give the carboxylic acid of formula VII, with

modifications in one of the side chains of ring¹- ring⁴ also having previously been carried out, where appropriate,



and then converting this compound into the compound of formula I wherein X is NH-OH, and

- c) optionally separating the compound of formula I, which has been prepared in accordance with steps a) or b) into an individual enantiomer by means of salt formation with an enantiomerically pure acid or base, chromatography on a chiral stationary phase or derivatization using chiral, enantiomerically pure compound, such as an amino acid, separation of the resulting derivatized diastereomers and elimination of the chiral auxiliary derivatization group, or
 - d) optionally isolating the compound of formula I, which has been prepared in accordance with steps b) or c), in free form or, when an acidic or basic group is present, converting it into a corresponding physiologically tolerated salt.
5. (Previously presented) A pharmaceutical preparation comprising a pharmaceutically effective amount of at least one compound according to claim 1 and a pharmaceutically tolerated carrier.
6. (Withdrawn) The use of the compound of claim 1 for the prophylaxis or therapy of a disease such as osteoarthroses, spondyloses, cartilage loss following joint trauma or a

DEAV2003/0001 US NP
Application No. 10/751,600

PATENT

relatively long period of joint immobilization following meniscus or patella injuries or ligament rupture.

7. (Withdrawn) The use of the compound of claim 1 for the prophylaxis or therapy of a disease of the connective tissue such as collagenoses, periodontal disease or wound healing disturbances.
8. (Withdrawn) The use of the compound of claim 1 for the prophylaxis or therapy of a chronic disease of the locomotory apparatus, such as inflammatory, immunologically-determined or metabolism-determined acute and chronic arthritis, arthropathy, myalgia and a disturbance in bone metabolism.
9. (Withdrawn) The use of the compound of claim 1 for the treatment of ulceration, atherosclerosis or stenoses.
10. (Withdrawn) The use of the compound of claim 1 for the treatment of inflammations, cancer disease, tumor metastasis formation, cachexia, anorexia, heart failure or septic shock.
11. (Withdrawn) The use of the compound of claim 1 for the prophylaxis of myocardial and cerebral infarcts.